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ABSTRACT

The vocational education system was started in the United States by a collaborative effort of employers, educators, and unions. If vocational education is to meet the critical skill needs of industry, Federal policies providing for broader governance and an incremental approach to the planning and delivery of vocational education programs are necessary. Rather than relying on government corrective action to adjust curricula after skill needs have already changed, vocational education planners need to build adjustments to changing technology and labor markets into the system. Federal vocational education policy must encourage States and local school districts to deal with all elements of the school-to-work transition, including job placement, job search education, and employment assistance services. When planning for the delivery of occupational education to adult learners, Federal policymakers need to focus on efforts to assist adults in making occupational adjustments and to aid employers in upgrading their labor force. It is imperative that Federal policymakers take steps to meet national skill shortages, promote entrepreneurship, and integrate the multitude of Federal human resource development efforts currently underway. (MN)

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CRITICAL SKILL NEEDS AND VOCATIONAL EDUCATION IN THE 1980s

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Critical Skills Program

CRITICAL SKILL NEEDS AND VOCATIONAL EDUCATION IN THE 1980s

NIWL
Critical
Skills
Program

Paul E. Barton
1983

PREFACE

The vocational education system was started in the United States by a collaborative effort of employers, educators, and unions. This paper argues that this collaboration has declined and needs to be restored, if vocational education is to meet the critical skill needs of industry.

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Paul Barton
President

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I. Restoring Collaboration

A policy of making vocational education a collaborative effort among education, employer, and organized labor institutions.

The following excerpts provide, in short compass, a description of the degree to which vocational education started as a collaborative enterprise:

> "The whole country is awakening to the imperative need of industrial education."
>
> —National Association of Manufacturers, March 1912, in support of aid to vocational education.

> "The American Federation of Labor is taking up the bill (aid to vocational education) in a vigorous way. Their legislative agent here in Washington . . . is pushing the matter along."
>
> —Letter written by the Assistant Secretary of Agriculture, January 1909.

> "The forerunner of the present American Vocational Association (AVA), the National Society for the Promotion of Industrial Education (NSPIE), founded in 1906, . . . brought into its membership a wide array of persons from agriculture, business, industry, government, and the public at large. . . ."
>
> —Melvin L. Barlow, *The Unconquerable Senator Page*, 1976.

Out of this broad coalition of interests, a piece of legislation was fashioned to create a vocational education system in the high schools of the United States. It is ironic that few seem to remember that this legislation was not a product of an education establishment pushing the Congress for aid to an education bureaucracy, but a broad-based movement with the full participation of those sectors that controlled preparation for, and access to, employment for young people. The principal actors in this 1917 drama assembled into a coalition because they had a common interest. Industry had skill needs. Enough educators believed the education systems could supply them. Unions thought prospective workers should receive useful educations. All thought attention should be given to youth going directly into the job market after high school.

These views are as relevant now as they were in 1917. Now, however, business people talk more *about* vocational educators than *to* them. Few have bothered to get to know the top vocational education executives in their communities, explain their needs to them, and offer their assistance and cooperation.

Vocational educators, once they have met statutory requirements for having the prescribed number of meetings of advisory committees, frequently go their own way—adjusting curricula less frequently than adjustments occur in the market.

Unions slip into a protective stance, often understandably, worried about programs that might cause adult employment problems. But this is often carried to a point of non-involvement in positive efforts to help vocational education.

The result is that critical skill needs go unmet, while too many youth get training for jobs that are not there.

Broader Governance

If the idea of vocational education as part of the public school system is going to work, the kind of collaboration that invented it in the first place is going to have to be restored. Skill development must take place within the system in which the skills are put to use. They cannot be developed in isolation from that system. That system includes the classroom (whether public or employer), the work station settings in which skills are developed or refined, the industry personnel who set and carry out hiring policy, and the unions (where they exist) that carry out apprenticeship programs, jointly with employers, and become involved in the day-to-day application of bargaining agreements. While vocational education systems vary considerably in the degree to which they are a part of this system, rather than outside of it, the general situation is one of less integration than is desirable, both from the standpoint of youth and from the standpoint of employers. Leading vocational educators are often the first to admit that ties with industry need to be closer.

There have been, from time to time, a number of laws and regulations, emanating from the Federal government, as well as from state capitols, designed to require participation in planning vocational education. Since the laws and regulations can only prescribe forms, and not substance, they have been limited in their reach. It is usually possible to comply with forms, without achieving the substance of involvement in planning and decision making.

The general perception of vocational education advisory committees is that they have *generally* achieved more of the form of participation than they have the substance of it. While there are many such advisory committees that have contributed immensely to exemplary vocational education systems and schools, there are serious limitations in relying on *legal* requirements that employers and unions be listened to in the formulation of plans.

Another problem with exclusive reliance on the advisory committee approach is that it is, in fact, only an advisory committee. This approach implies that vocational education is solely the responsibility of the public school system and that all decisions will be made by the public school system. Industry representatives are there only to provide "advice" and have little role or responsibility beyond that. In point of law, that is in fact the case.

A system of skill development operated in isolation, when the skills are to be applied in a market system, will not be successful in getting employers to support it and regularly use the skills that are produced. It will happen in some places, and at some times. But we want much more than that. There are employers to be found who will testify for vocational education. But a great many hold the view that vocational education is not keeping up with the needs of industry. If vocational education is developing skills for the employment system, the whole system has to be involved if this mode of imparting skills is to become a leading actor, rather than just a supporting player. What is needed is a system in which the public (meaning public education), the employers, and the unions (where they are a significant factor in an industry) collaborate to provide (i) occupational training, (ii) on-the-job work experience settings, and (iii) access to relevant jobs after skills are acquired. All of this should be done in a system in which goals in the area of *basic* education are also met.

It is hard to come up with a prescription for doing this, particularly from the vantage point of writing laws. Such a system needs to emerge from a collaborative process, rather than by edict from a legislature, since employers are not subject to such edicts as are public agencies. *The best approach would be the creation of a working party composed of education, employer, and union representatives to work out a model whereby vocational education becomes a joint undertaking available for adoption or adaptation at the state and local level.*

An Incremental Approach

There are collaborative approaches short of comprehensive changes in the system of governance that could be relied upon in the present, approaches that would establish a base of experience. The National Association of Industry-Education Cooperation (NAIEC) is one such effort to bring industry and education together at the local level. Statewide efforts such as the Industry Education Councils of California are also success stories here. The National Manpower Institute (now the National Institute for Work and Learning) began working on a model of local collaboration in 1973. In 1975, the Institute published its recommendations for piloting local Community Education Work Councils.* A recent inventory of local collaborative efforts of employers, educators, and unions disclosed that there are now about 150 across the country.** These are not councils that serve only in an advisory capacity to a public program. They share responsibility for easing the transition from school to work or improving education in the schools.

There are also Private Industry Councils (PICs), created under CETA and mandated by the Job Training Partnership Act, that have broadened enough that educators and unions are well represented, although most are almost wholly dominated by employer representation. Many of these PICs could assist with the vocational education enterprise, although such action would often be broader than the current charter of providing employment for the disadvantaged and retraining for displaced workers.

These collaborative approaches cannot be legislated. But perhaps they can be encouraged by providing modest amounts of start-up funding, at least for secretariat services, until the participants organize enough to provide the funding. Funding, of course, is a minor matter compared to achieving real and lasting collaboration

*See *The Boundless Resource: A Prospectus for an Education/Work Policy*, by Willard Wirtz and the National Manpower Institute, New Republic Book Company, 1975.

**See *Industry-Education-Labor Collaboration: A Directory of Local Collaborative Councils*, National Institute for Work and Learning, 1981.

among these sectors in the vocational education enterprise.

This could be done in a number of ways, including matching Federal funds to be used in localities for this purpose. The experience of the National Institute for Work and Learning was that such a collaborative council can be sustained with $25,000-$40,000 per year for secretariat services. Of course, many have started up without public funding at all, and the leadership involved in creating such collaborative councils can come from any sector of the community. Existing Private Industry Councils could be used to take on such an assignment.

II. As a System of Education

A policy of recognizing the educational objectives of the vocational education approach, rather than the present fixed focus on immediate placement outcomes, and striving for a system open to all who want it.

While it is essential to involve industry in the vocational education enterprise, it is also essential to recognize that vocational education is a system of *education*, not a *job training* system. To be sure, the distinctions sometimes get to be a bit fine, but they are nonetheless real and important. Skills critical to industry include the basics: computer and technological literacy as well as reading, writing, and arithmetic.

The first priority is that vocational education be good education . . . in reading, in writing, in computing, in listening, in problem solving. A single evaluation yardstick of the percent of graduates immediately placed in "jobs for which they are trained," to use the common expression, is much too short a measure to apply. We must also ask how well they are educated. For one reason, employers need people with good basic educations. For another reason, we want, in the United States, to keep all options open for young people as long as possible, and this means keeping options open to pursue postsecondary education as well as immediate employment. You can't get into college if you can't read.

For All Who Want It

Many of the criticisms of vocational education spring from some underlying belief that because it prepares young people for jobs it is by definition second class education . . . and that the more it attempts to be responsive to what industry needs, the more it is departing from sound educational practice. It is not sufficiently recognized that *most* of American education is vocational, including about two-thirds of higher education. Doctors, lawyers, and teachers go through "trade" schools, and making the distinction that these are "professions" only underscores the class distinctions on which some of the disdain for vocational education is based.

Young people who do not pursue education beyond 12 years should not be deprived of the option of learning an occupation they can qualify for in that 12-year period of preparation. There are different learning styles, different interests, and different objectives among high school age youth. We should offer variety in educational approaches and not force all youth into the same mold.

As for the question of the responsiveness of vocational education to industry needs, the consideration is one of balance. To serve students, vocational education has to equip them in light of what works in the market place. But education is responsible for making independent judgments about what constitutes an education and in no way should it become subservient to narrowly defined needs. Education's aim is vocational preparation to launch a lifetime of work and living, not to shape a worker for a narrow set of skills good for only one employer. There should be some tension between educators and industry, but in a climate where both recognize that their larger objectives are complementary.

The head and hand debate in education will continue and should. As Irving Horowitz has said, ". . . the historic split between head work and hand work characterizes the teaching and learning processes since antiquity."*

As the debate continues, adjustments are made from time to time in how vocational education is placed in the total system of high school education. Evans and Herr describe what happens:

> A cycle can be observed which is represented approximately once every generation: (1) establishment of a reasonably comprehensive high school, (2) gradual decreased emphasis on vocational education, (3) establishment of separate vocational schools, and (4) the reestablishment of comprehensive high schools which emphasize vocational education.**

The recommendations in this paper would result in very substantial changes in the Federal role in vocational education and stem from the belief that considerable change is required in structure and practice. But these recommendations are made in a context of complete agreement that vocational education has a legitimate

*Irving L. Horowitz, "Head and Hand in Education: Vocationalism versus Professionalism," *School Review*, May 1975.

**Rupert N. Evans and Edwin L. Herr, *Foundations of Vocational Education*, 1978.

and important role to play in the public education system, one that is important enough to receive a Federal financial contribution as a system of education.

To be effective as a system of education, vocational education needs to serve all who want this particular form of education, not close off further educational options for those who take it and not become identified with some narrow segment of the youth population, whether at the bottom or the top of the socio-economic scale. At the same time we know that, on the average, socio-economic background is a strong prediction of youth occupational paths and levels of educational achievement. While we maintain open options, we know that those who start with the greatest advantage are generally the ones who exercise the options that lead the farthest. Yet, there are also significant numbers of youth in this open system who go well beyond where family backgrounds might have indicated.

It is more difficult to give this principle of an open system operational meaning than it is simply to announce it.

The emphasis on equal access to public education over the last ten years or so has eroded policies of exclusiveness in some vocational schools that established high admissions standards. At the other end of the spectrum, earlier images of vocational education as a "dumping ground" for young people not making it anywhere else have also become dimmer. Across the United States, there is a wide spectrum of situations in vocational education, ranging from highly respected area technical institutions to schools well known as drawing "from the bottom of the barrel." *But the center has greatly enlarged, and vocational education has emerged as a system more and more serving a larger segment of the youth population, to the point where it represents about two-fifths of the entire budget for secondary education.*

Quality Education

We do not want a segment of the education system to be reserved for a particular part of the population, nor do we want a population that is channeled to a particular segment of the education system. To keep all segments of the system open to all is both a matter of substance and a matter of perception.

One matter of substance is that in order for options to be kept open to go to college, the basic education element in programs where youth are learning occupational skills needs to be of high quality. Otherwise, the option becomes foreclosed.

Also, high quality *basic* education is necessary for succeeding in the employment world. An occupational skill may be a useful add-on to a good basic education, but a primary prerequisite for employment is still the ability to read, write, and compute, and computer and technological literacy are becoming more important. So how well youth enrolled in vocational education programs are doing in these subjects becomes very important, both for keeping education options open, and for preparing youth who do not go on to college for employment. The problem is that the principal standard for judging vocational education has become the percent immediately placed in the occupation for which they were "trained."*

But youth are not just to be trained for a job, they are to be educated. *The first question should be how well they are educated . . . how well they perform in reading, math, writing, literature, etc. Federally inspired evaluations should focus on these skills as well as immediate occupational outcomes. Twelve years of education are for more than just finding a first job in the skill that was studied last in high school.*

And if the basic education is of high quality, there is no reason why vocational education graduates should not have a wide range of choices for postsecondary education. For it to be any other way would mean that tracking begins after junior high school and that vocational education is known and expected to be a track that does not go past high school, but goes only to lower level entry jobs. And if these high school graduates don't have high school level basic educations, they won't go to decent entry level jobs either.

There are two avenues that could be pursued in the application of Federal policy to remove this exclusive focus on immediate labor market outcomes. One goes to a basic principle of education itself, the other to tracking the results.

Any teaching of direct occupational skills in the public classroom creates

*For an excellent analysis of all possible elements of vocational education, see Harry F. Silberman, "The Intrinsic Benefits: Non-Economic Returns of Vocational Education," *VocEd*, September 1980.

an educational practice that differs from general education in the humanities and in the sciences. There is no quarrel with this degree of "separate" vocational education instruction. There are arguments made that there should be no direct vocational instruction in the high school, that this is not education, and that offering such instruction inevitably detracts from the time available to provide an "education." While agreeing that maximum effort needs to go into providing a basic education, the more extreme arguments against vocational instruction are rejected.

But while a case exists for providing vocational skills in the high school, that case does not support either the divorcing of vocational education from general education, or the neglect of the basics because of some presumption either that students in vocational education do not need it or that they will not be going on to postsecondary education.

It has been Federal policy, since 1917, to encourage the establishment of a separate vocational education system.* The 1917 law created a Federal Board on Vocational Education, and it affected school organization and curricula through Regional Agents reporting to an Executive Director and through the review of state plans. The Board was abolished in 1933. Charles Prosser was the first Executive Director, and "in his brief tenure there, his passion for separate vocational schools and specific-task training of students for existing jobs produced policy directives, articles, and advice to thousands of like-minded advocates across the country."*

Federal policy should now encourage the maximum integration possible between vocational instruction and general education, and achieving this should be a condition of Federal aid, removing any Federal influence for creating a parallel system of education. This would work both to expand vocational offerings to those planning more general secondary and postsecondary educations, as well as assure increase in general education opportunities for those terminating their educations with high school.

Such general policy would have to be turned into specifics, and there would be choices to be made as to what constituted integration. It would also be necessary to avoid detailed guidelines that had the effect of subverting state and local control and discouraging divergent educational philosophies. To complicate matters a bit, there are probably separate vocational high schools having more success in the teaching of the basics than are the general track courses in the regular schools. The principle is integration of vocational and general education, and there is a variety of forms and organizational arrangements under which this could be accomplished and already is being accomplished in many places.

The second element of a policy of recognizing the primary educational objectives of the vocational education system is broadening the standards used to evaluate vocational education outcomes. We need to know the *educational* progress of all students. The recognized system for doing this is the National Assessment of Educational Progress (NAEP). *However, NAEP does not identify vocational education students among the national sample of 17-year-olds taking the tests. The necessary background information should be collected in the examinations of 17-year-olds to identify students enrolled in vocational education, under what arrangements, and to what degree.* This would enable a comparison over time of the achievements in reading, writing, and arithmetic, by region of the country, and by socio-economic level of the student. Such a change would recognize the dual objectives of vocational education: the providing of an education and preparation for a specific vocation.

*"Manual training" in public schools, was, of course, long under way. According to Lawrence Cremin, "Philadelphia founded a public manual training school in 1885; St. Paul opened one in 1888. And city after city established manual classes as adjuncts to the general school program" (in *The Transformation of the School*, Vantage Press, 1964, p. 32).

*Draft paper by Larry Cuban, titled "Enduring Resiliency: Enacting and Implementing Federal Vocational Education Legislation."

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III. Learning and Working: They Go Together Well

A policy of moving toward joint school-employer occupational instruction, with the burden of proof shifting to the states to justify a strictly classroom approach.

Integration between occupational education and general education is not, by itself, enough. Integration is also required between the school and the employer.

There has been a trend under way for some time in the direction of blending schooling and working together, at both the secondary level of education and the postsecondary level, complementing a trend during this same period in which more adults have gone back to school on a part-time basis.

On the youth side, a number of factors have been involved. Vocational education has long had a cooperative education component, developing most broadly in retail trade, office occupations, and "trades and industry" programs. According to Rupert Evans and Edwin Herr:

> Despite strong opposition from vocational educators in the forties and early fifties, the program grew in secondary school enrollment from zero in 1930 to 117,000 in 1965-66 and to 312,000 in 1971-72. Some 2,500 of the 18,000 high school districts had 4,802 such programs in 1965-66. The number is certainly higher now, but no one knows how much higher.*

They go on to say that "studies of the economics of vocational education have shown higher rates of return on investment in cooperative programs than in other types of vocational education."

Cooperative education was given additional impetus in the Vocational Education Amendments of 1968, in a separate Part G, beginning with the statement that "The Congress finds that cooperative work-study programs offer many advantages in preparing young people for employment. Through such programs, a meaningful work experience is combined with formal education enabling students to acquire knowledge, skills, and appropriate attitudes."

Other Federal laws and efforts have stimulated simultaneous learning and working arrangements. The work-study programs for students from low-income families, in both the Vocational Education Act and the Higher Education Act, are two examples. The programs emanating from Federal employment and training legislation are another, beginning with the Neighborhood Youth Corps run by the Department of Labor under the Economic Opportunity Act of 1964, with successors tracing through to the present CETA programs.

More recently, there has been some growth in the number of schools offering Experience Based Career Education. The cooperative approach has also continued to grow in junior and community college settings, with limited Federal financial assistance coming through the Higher Education Act.

As important, or perhaps more important, are the individual decisions of young people to seek part-time work while they are in school, outside any formal program stemming from education or employment and training institutions. There has been a steady increase in labor force participation rates among 16- to 21-year-old students over the last two decades.

One clear finding in national level studies, from which very little else of clarity emerges, is the relationship between working part-time while still in high school and the unemployment rate after high school. The most comprehensive set of data (although not the only set) on this comes from the National Longitudinal Study of the High School Class of 1972 (for those who did not enroll full-time in post-secondary education)*:

Hours Worked Per Week Senior Year	Average Unemployment Rate (4¼ Years After High School)
0	12%
1-5	11%
6-10	9%
11-15	9%
16-25	7%
More than 25	6%

This relationship holds irrespective of race or sex.

*Rupert N. Evans and Edwin L. Herr, *Foundations of Vocational Education*, Charles Merrill Publishing Company, 1978.

*Adele V. Harrell and Philip W. Wirtz, *Social and Educational Antecedents to Youth Unemployment*, Social Research Group, The George Washington University, Washington, D.C., 1980.

There are, of course, qualifications to any conclusions drawn from such data, particularly with respect to cause and effect. But this relationship has been found in studies going all the way back to a national study by the Bureau of Labor Statistics in 1963. Also, these data do not discriminate among youth working and schooling as a result of planned programs as compared to those getting jobs on their own in the open labor market. In fact, one of the problems encountered in studies that evaluate work-study programs is that a high proportion of youth in general education programs also work.

To whatever extent vocational education advocates argue that combining basic education with learning occupational skills provides a good learning environment for a high proportion of youth, that argument applies even more to acquiring skills in real work settings. The link between learning and work experience is stronger than when only the school workshop serves as a proxy for experience. The learning experience nexus, of course, gets its clearest expression in education philosophy in the work of John Dewey, writing at the turn of the century, who said: "As formal teaching and training grow in extent, there is the danger of creating an undesirable split between the experience gained in more direct associations, and what is acquired in school."*

There are, however, a number of practical considerations, and observations based on common sense. Together, they make a strong case for steadily enlarging the proportion of youth who have a combined learning-work option.

1. *Learning occupational skills is aided by experience.*
   Actual experience in real work settings adds an important element—the reason why medical students work in hospitals and education students practice teach. It's also why industry relies so heavily on on-the-job training.
2. *For cooperative education, the school and employer work together.*
   The employer adds the experience dimension to the school classroom. Communication exists, with employers able to spot and point out educational deficiencies, and the schools able to point out when the work station assignment is not proper for skill development.
3. *Joint work-study programs provide a job connection.*
   In addition to getting a skill, there is a connection to an employer—often several of them—which many times results in a job offer upon graduation.
4. *The market test is applied all the time.*
   To interest employers in such joint efforts, the occupational areas must be ones in which demand is reasonably strong. It cannot survive in an area where no substantial hiring is taking place. This counters tendencies in strictly classroom vocational education to continue offerings when demand has shifted.
5. *Cooperative style education reduces equipment problems.*
   This is true from two standpoints:
   - The equipment actually in use in industry is usually more up-to-date than classroom equipment.
   - Training on employer-owned equipment reduces the cost of replacing school equipment, which can rapidly become obsolete.
6. *In general, such joint ventures force educators and business people to talk to each other.*
   One of the serious problems in education generally, and vocational education specifically, is the tendency toward isolation from employment institutions. Joint efforts, such as cooperative education, require a dialogue in order to make them work.

While the term "cooperative education" is used frequently above, it is used in the generic sense and is not confined to the particular existing forms of cooperative education. Experience Based Career Education would be included, as would various internship programs. Formal apprenticeship programs are a mixture of classroom and on-the-job training. Work-study programs are encompassed here, although the term is often used for programs in which the work is for income purposes only, and where no interchange takes place between school and employer.

Unfortunately, such joint school/employer programs command only a small portion of vocational education funds. Only 2.0 percent of Federal funding (from the basic grant) goes for cooperative education, and 2.2 percent of non-Federal. The comparable percentages for work-study

*John Dewey, *Democracy and Education*, The MacMillan Company, 1961.

programs are 1.3 percent and 0.1 percent.*

Through matching grants, Federal policy encouraged the development of classroom occupational skill training. This was a successful effort, and a vast system of classroom occupational education now exists, with nine out of ten dollars provided from non-Federal sources. But, in too high a proportion of school systems, this education is not linked to employer training systems to the degree it needs to be. Federal policy should now shift toward encouragement of joint school-employer occupational education and training.

The burden of proof should now shift to showing why a particular occupational area should not be approached on a cooperative basis, before Federal money is spent on teaching occupational skills. This would move toward a system in which continual adjustments would have to be made to market shifts, and where educators and employers would find it necessary to work together.

Most observers of the transition from school to work have commented on how known and certain that transition is for most youth, particularly in countries such as West Germany. As previously pointed out, some of this certainty comes from early tracking into industry, foreclosing options for continuing education. The United States does not want that kind of tracking. But another reason for success in these other countries is the extensive use of the apprenticeship system, where young people get a combination of classroom training and on-the-job experience and instruction. The apprenticeship system, as important as it is in the U.S., serves only a limited number of young people, and the average age of entry is far beyond the age of high school graduation.

What we need is an American counterpart to this system widely used in Europe. The vocational education system, working with employers and unions, is uniquely situated to work out such a counterpart system, combining instruction and experience.

*Interim Report of the Vocational Education Study, National Institute of Education, September 1980.

IV. Meeting the Market and Making It

A policy of building adjustments to changing technology and markets into the system, rather than relying on government corrective action to adjust curriculum after skill needs have already changed.

Occupational offerings of vocational education have gotten, from time to time, out of line with the structure of the job market. Federal policy itself shares a responsibility for this development, due to the rigidity in the categories specified in Federal law. These rigidities have been removed or reduced, and vocational education has in fact become more responsive to market shifts. But the adjustment is incomplete and slow to take place.

What is needed is to build the process of adjustment into the system, so that by its regular operation it adapts to the changes in the economy. Two steps recommended earlier are very much in this direction: the broadening of collaboration and the shift toward cooperative education-type arrangements between schools and employers. However, the whole tracking system needs improvement and integration at the level of the community.

Experts disagree on predictions of the future, and it is dangerous to get too dependent on such predictions.* But we can at least keep up with the changes that are happening every year.

Since the time of the comprehensive review of vocational education by the commission President Kennedy appointed, vocational educators have heard the refrain, over and over, of "use occupational trends and projections to keep curriculum offerings up to date." By this means, the charge of the 1963 amendments to provide vocational training "which is realistic in the light of actual or anticipated opportunities for gainful employment" was to be met.

In the beginning, there was very little such data available in a form that could be used in decisions on expanding or contracting education for particular occupations. There were a few national projections, coming from the Bureau of Labor Statistics, and a few local skill surveys by state employment services. They were not a basis for educational planning.

A combination of events and developments has changed this situation considerably. One was the passage of the 1968 Vocational Education Amendments, providing for transfer of money to the Labor Department to purchase better information. The efforts of the Labor Department culminated in: guidebooks to states showing them how to translate national projections into state and metropolitan area projections (1969); progress of BLS in economic growth modeling, using input-output matrices; and the creation of the BLS Occupational Employment Statistics program, getting occupational statistics directly from employers. Most important, from the point of view of process as well as advancement of technique, were the 1976 education amendments creating the National Occupational Information Coordinating Committee (NOICC), and the cooperating State Occupational Information Coordinating Committees (SOICCs), to bring the education and the labor market agencies together.

From the standpoint of policy, what are the next steps in assuring the best match between occupational offerings and labor market realities? And what Federal role is appropriate in achieving them? The first step has to do with bringing the education and labor market authorities together at the *local* level on the development and application of occupational statistics and projections. The second has to do with compensating for the inadequacies of such projections. The third involves making a market for vocational education, rather than just meeting the existing one.

Coordinating Occupational Information at the Local Level

The steps taken by NOICC and the SOICCs have been very important in creating a base of occupational information and projections. These coordinating committees have greatly increased the communications between the Federal and state agencies respon-

*For one review of the official projections of occupational trends as they affect vocational education, and an alternate scenario to government projections, see Joseph Froomkin, "The Future Role of Vocational Education," prepared for the National Institute of Education, November 1960.

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sible for education and labor market information and programs. Technical capacity has been increased at the same time understanding and trust have been improved.

The situation at the local level is a lot less clear, and the next step is to bring the same joint effort to bear at the local level as is beginning to exist at the Federal and state levels. There are a number of reasons for this:

- A principal reason is that in a great many states, given available budgets, the basic decisions about expansion and contraction of particular courses of instruction are made at the local level. So it is here the information must be brought to bear.
- A second reason is that the mix of industry and occupations can be different in a metropolitan area than in a state as a whole, or, perhaps, there is a particular development that will change the future drastically, like a new industry arriving or an old one departing.
- A third reason is that even though technicians can make statistical projections in Washington or in the state capitol, there is still a question as to whether they will be trusted or used by local officials, who are aware of their separate jurisdictions and are somewhat suspicious of Federal and state level efforts to control local decisions through statistics generated elsewhere.
- A fourth reason is that there needs to be local understanding of the uses and misuses of the projections and the extent to which judgment is involved in their application.
- A fifth reason is that while there is one local labor market, and one total estimate of job openings for the area, there is more than one supplier of occupational training. While these suppliers are unlikely to agree fully on dividing up the market to prevent over-training in a particular occupation, sitting around a table with the facts and figures will bring some reality into the picture.

The recommendation is that Federal policy encourage the creation of occupational information coordinating arrangements between educators/trainers and local labor market authorities. While it would seem natural to call these Community Occupational Information Coordinating Committees, to follow on the NOICC and SOICCs, the function is what is important and can be carried out through varying formal arrangements. That is, there should be as much room as possible for the exercise of local judgment.

Why is Federal policy involved at all at this level? For one reason, the Federal government has chosen, since 1917, to take a leadership role in creating a system of occupational education. It follows that this role extends to assuring that the occupational training is realistic in terms of what the needs are in these occupations. For another reason, the Federal government funds practically all of the operations of local labor market agencies: the local offices of the state employment service and the Mayors' employment and training programs under JTPA. It has some responsibility to assure that labor market information for occupational education decision making is available and that these agencies cooperate with their counterparts in education.

Getting Underneath Occupational Projections: Employer Hiring Practices

Even good occupational projections, when used alone, have serious limitations. You need to start with them, but you can't end with them. The reason is that knowing how many people will be hired in a particular occupation is only limited information. There are a number of routes into an occupation in American industry. Actual hiring practices vary among occupations and among industries. They also vary within occupations and industries, depending on the location of the firm. Firms in the same industry may well have different hiring practices. The amount of training time varies greatly among occupations, and many do not require extensive training.*

Some firms hire workers with basic skills and provide their own training. They would not expect to hire people from schools that had provided occupational education. AT&T would be an example of a corporation that would expect to do most of its own training. Some firms expect that job skills will be learned on the job and

*For a useful presentation on how to look at a community's jobs from this standpoint, see *Jobs Skills Training Education*, R&D Monograph #76, U.S. Department of Labor, 1980, based on the work of Marcia Freedman.

through experience, and a school product may or may not have a competitive advantage. If there is projected growth in an occupation in a situation where the employer does not use vocational schools as a source of supply, then the projection itself is insufficient to justify creating or expanding courses in that occupation.

Rather than relying on projections of occupational demand, each local vocational education system should have a regular program of visits to the community's major employers to identify hiring and training practices, in order to plan vocational education offerings so as to maximize the possibility that graduates will be hired by those employers.

Now, a great many vocational educators would say that they "talk to business executives." Many of them probably do. This recommendation is for a systematic approach to talking with employers about their hiring and training practices. *A local vocational education system should identify a set of "account managers," so that one person makes regular visits to a set of employers.* This is not necessarily a new or separate set of people in the system. It may be a full-time representative, who covers a large number of employers, or it may be an additional responsibility of teachers or administrative staff. The point is only that it be comprehensive and regular. It provides both the opportunity to record in the information system the employers' hiring and training and recruitment policies and practices and the opportunity to get information useful in making curriculum and content more responsive to current employer needs.

Enlarging the Market

There is, in the preceding, a somewhat negative tone, being sure *not* to offer occupational education (i) when there is insufficent projected growth in the occupation or (ii) when there is growth, but the employer provides his or her own training and would not expect to use graduates of vocational education. There is anotner side to the coin, however. The account manager approach provides both an opportunity to record employer hiring and training practices and *also to affect them.*

The vocational education system has two clients to satisfy. One is the student. The other is the employer who hires the student. Satisfying the student depends heavily on satisfying the employer, and the regular visit by the account manager provides the vocational education system with an opportunity to tell the employer about its occupational training and explain how the system can help meet the employer's skill needs and reduce internal training costs.

Through regular arrangements for visits, the vocational education system also has the opportunity to:

- find out what problems the employer has had with the school products;
- work out arrangements for upgrading training for employees; and
- work out arrangements for cooperative education approaches and internships for students.

At the same time that vocational education can be adjusting to the realities of the job market, it can also be expanding the use of its graduates by employers.

V. Youth Transition to Work: The Whole of It

A policy of recognizing that facilitating the youth transition to work is impor. nt, that classroom occupational education is only one element in the transition, and that Federal policy should encourage states and localities to deal with all elements of the transition.

It is of more than passing interest that the organization representing vocational education practitioners is called the American Vocational Association, leaving out the word education. A concern with youth achieving "vocations" is a broader concern than education alone, a fact that has become more evident in the past few decades.

The original interest of the promoters of vocational education was in serving that large portion of youth going directly from school into the job market as well as in meeting the training needs of industry. Since then, institutions have become larger—education institutions, employment institutions, and union institutions. The range of job offerings and occupational specializations has greatly enlarged. The geographic factor has come into the picture as metropolitan areas have grown. All this means that information needs to be better, mo'e choices need to be made about vocations, brokers are often needed to help youth make the job connection, and young people need to be taught how to negotiate this complex labor market in order to land on their feet. *None* of this is being done very well in *most* places.

Federal policy successfully encouraged the creation of classroom occupational training. But it has not made a consistent effort to put in place the other activities that would deal with the *whole* of the youth transition to work. It is proposed here that Federal policy now concentrate on these neglected matters, a neglect which has produced the observation in a *Washington Post* editorial that: "In no other industrialized country are the transitions from school to work and from one job to another left so much to chance as in the United States."

Job Placement

If a public employment service system had developed along lines that included a youth placement service with a close connection to and working relationship with the schools, we would not need to pay much attention to it in legislation authorizing classroom vocational education. In some countries, the public employment service has performed that function, and agreements have been worked out between the employment service and the school authorities. At various times, it looked as if the school student in the United States would be served by the Federal/state Employment Service, but those efforts largely faltered, although there are vestiges of them in some parts of the country. Only a small proportion of school graduates get their first jobs through a public employment service.

On the school side, a quality placement/job search assistance function never evolved as a standard feature of the American high school. At the postsecondary level of education, it has become quite common to have a college placement office, although these often amount to very little. Vocational schools vary in the extent to which individual students are helped with job search, and students in general track programs are by and large out of luck.

There are, in the area of comprehensive, school-based placement systems, good working models around the country. Summit County, Ohio (Akron) would be one example. There have been experimental placement services, in cooperation with the state Employment Service, in Pennsylvania, and there is the Wisconsin In-School Placement Project. There are other models that have been functioning for some time.* Unfortunately, there is no good national information on quality and type of job placement services available to students while they are still in school and are preparing to leave.** Schools say they have placement services if one staff member is assigned the responsibility for helping graduates get jobs, which is quite dif-

*See *Job Placement Services for Youth*, National Manpower Institute (now National Institute for Work and Learning), 1978.

**The survey carried out in 1976, through the "quick response" arrangement of NCES, provided information of only limited use. Much more in-depth information would be required to determine the degree to which viable placement services are really available.

ferent from operating a placement exchange, taking and soliciting job orders, and matching applicants and openings.

Vocational education refers to such activities as "student services" and places them in quite a different category from teaching skills in the classroom, and of much lower priority in allocation of funds. *The policy proposed here is that vocational education recognize that job training in the classroom without providing contacts with real job openings that exist in employment is a little like bottling good wine without providing a cork screw* (we say a little, because there is, of course, much that young people can do on their own).

To be fair to the vocational education system, two things should be pointed out. One is that it does a better job of providing such placement services than does the regular secondary education system in providing placement services to general track students. The other is that most vocational education systems have been provided inadequate funding for such placement services. The point holds, however, that such services are not high in the priorities.

We propose a large departure from present general practice and policy. In keeping with the goal recommended at the outset of this chapter, that the responsibilities of this system be defined as dealing with all the elements of school-work transition, rather than just the occupational skill component, the responsibility should be broadened to provide placement services for *all* high school students, whether they are in the general or vocational track. To be more specific, *the recommendation is that a portion of the Federal funds, matched by state and local funds, be provided for placement services available to all vocational and general track students and that the state plan address the provision of such services with the same seriousness as it addresses occupational education and training.*

The ideal arrangement is a joint effort between the school system and the state Employment Service under agreements facilitated at the state level, but with the details worked out at the local level, between the LEA and the local E.S. office. To this end, *it would be desirable to earmark funds for both the vocational education and public employment service systems that would become available only when there is a joint agreement and joint program to provide for student job placement. This would build on the successful experience of CETA in requiring joint LEA/Prime Sponsor programs in serving disadvantaged youth, and similar requirements in the Job Training Partnership Act.*

Job Search Education

While there should be regular placement assistance available to students on a routine basis, the person with primary responsibility for finding a job, throughout working life, is the individual job seeker. Even when assistance is provided in breaking into the market, there will be a number of job changes during working life. The teaching of an occupational skill does not, itself, provide the necessary instruction for how to navigate in complex labor markets and how to approach employers in ways that will be successful.

In the last few years, experience has been gained in teaching "job search skills" under various CETA programs for the disadvantaged and under career education banners. There are now tested programs where this has been done well, programs identified by the Work in America Institute in its training workshops on placement and job development over the last year or so. In fact, that Institute is now attempting to develop model curricula, based on successful programs.

Such job search instruction, when done well, could provide a skill that would last a lifetime, rather than just for one job. Employers have expectations youth can learn to meet. There are best ways to answer the question on application forms asking "what salary would be acceptable?". There are appropriate ways to conduct oneself during a job interview. There are ways to use the telephone in search of a job interview. There are points about using public and private placement agencies that would be useful to know.

Again, it would be a serious mistake to leave general track high school students out of such job search education programs. They, by definition, are not receiving job-specific information. More than any other group, they need to know how to fend for themselves in the job market.

The need for such job search education is clear in the statistics. Most young people get jobs through other than formal, organized placement systems. Interviewed two and one-half years after graduation, 47 percent

of the high school class of '72 got their jobs by applying directly to employers and 36 percent through leads from friends and relatives. Only 6 percent got them through formal means, such as through the public Employment Service, only 8.6 percent through school placement services, and only 4.2 percent through private agencies.* *We put them on their own; we should teach them how to cope in the job world.*

Federal policy should encourage states and localities to provide young people with basic knowledge about the operation of the job market, and how to conduct themselves in it. Education that is practical and experiential, rather than abstract and theoretical.

Employment Assistance Officers

There is a growing recognition that we have come to rely on professional "counseling and guidance personnel" for too many things, particularly in view of the fact that their numbers have been inadequate in the high school. Whether for good or for bad, the evolution of that profession has been away from assisting high school graduates with immediate post-school and in-school job choice and job finding to counseling built on the treatment model of psychology and psychiatry, and with a large number of duties to perform such as:

- high school curriculum choices;
- college choices and assistance with testing and admissions;
- discipline and behavior problems; and
- whatever else a harried principal needs that he or she cannot use teachers for.

The broad professional training of counselors provides a competence to stretch their services far, particularly in helping young people make career choices, in the broadest sense; these talents are especially focused on those professions and careers for which college is appropriate. That's the way things have developed; it's too much to expect that counselors will be able to cover as well the day-to-day job finding needs of the half of young people who do not even enter postsecondary education.

It is time to be inventive and to create a small cadre of personnel in the schools and in the community that is equipped to tell all young people leaving high school without immediate college plans what is out there, what they have to do to be prepared, and what employers offer that fit their interests. These people do not have to be professional counselors; their base of knowledge is the job market. They know:

- the community's economic structure and what the industrial and service sector trends are in the community;
- the hiring and training requirements of industries and employers in them (if they follow the recommendations in this paper for use of information about projections and employer practices);
- the pattern of job openings available through the school-based, or public employment-based, or community-based placement agencies; and
- how to recognize when a young person needs *professional counseling* and make referrals to such professional personnel. (Conversely, these professionals know when to pass a young person on to one of these employment experts.)

Qualifications would be in terms of demonstrated knowledge, however acquired. There would be an attempt to attract people with industry experience. In fact, a person who has spent an entire career in the educational system would probably be the least qualified. There would be no professional degrees in counseling and guidance required. *However*, it might be appropriate for employment experts to serve under the general supervision of the counseling and guidance directors, much as a physical therapist would serve under supervision of medical doctors. In such a model, there is no reason for jurisdictional disputes and battles over turf.

As in the case of placement services, these experts in the local job market would be available to all high school students, not just those enrolled in vocational tracks. In fact, vocational students are likely now to get the best job advice of all from teachers who keep up with their occupational specialty or from professional vocational counselors stationed in vocational schools.

There is widespread interest in getting this function performed, and it would be a worthy objective for Federal stimulation, as was skill education itself in the original vocational education act.

*National Longitudinal Survey, *Class of '72*, National Center for Educational Statistics, #75-208: U.S. Government Printing Office, 1975.

VI. Occupational Education and the Adult Learner

A policy of assisting in occupational adjustments and of aiding employers to upgrade their labor force.

It should not be forgotten that the vocational education of adults is an important objective of the vocational education system. To specify exactly how large that enterprise currently is would require agreement on definitions and choices among several ways of doing the counting. The NCES survey of participation in adult education shows enrollments in 1978 of 711,000 full-time vocational students over 24 years of age. The Bureau of Occupational and Adult Education showed total enrollments of 3.5 million adults in occupational education.

Expansion of adult occupational training has been dramatic over the last decade, particularly in part-time enrollments in junior and community colleges. The vocational education system is involved to varying extents in these developments, depending on the funding patterns and organizational arrangements in individual states.

The successful transition from school to work is important, but so is the ability of adults to make transitions back to education. A principal reason why adults go back to school is occupational, in one form or another—to advance on a job, or change jobs, or adjust to another occupation when they have been dislocated from their employment.

Adult learning proceeds on many fronts: in two year colleges; four year colleges and universities; technical institutes; public high schools; community institutions such as churches and YM/YWCAs; offerings of professional associations; correspondence courses; television; and at the place of employment. The threads of many of these efforts lead, in one way or another, back to some involvement of the Federal government, from support for public broadcasting, to direct involvement in basic opportunity grants, to tax treatment policies for employer tuition reimbursements.

While the whole of adult learning cannot be explored here, a comprehensive two year project supported by the National Institute of Education and carried out by the National Institute for Work and Learning,* was completed during the fall of 1980. A book summarizing the results of this work was published by McGraw-Hill in 1982.**

A few priority matters will be treated here, of particular relevance to the vocational education system and the Federal role in it. One is the need to help workers dislocated from jobs prepare for new ones. Another is the need for vocational education to work cooperatively with industry on the skill upgrading front and to work collaboratively to help workers take advantage of the tuition aid benefits available to them from their employers, or unions, or under collective bargaining agreements.

*Formerly the National Manpower Institute.

**Paul E. Barton and the National Institute for Work and Learning, *Work-Life Transitions: The Adult Learning Connection*, McGraw-Hill, 1982.

Occupational Adjustment Assistance

A dynamic economy based on principles of free enterprise requires adjustments on the part of all participants in it. Businesses adjust their levels of production based on changes in demand, shift their products based on experience with shifts in consumer wants and tastes, succeed or lose out to foreign competition, expand or go bankrupt, change their technology to reduce costs or improve their product, and move to more favorable locations for doing business.

Almost all these shifts are for the purpose of improving business positions, and the freedom for businesses to make these decisions is essential to the free enterprise concept. This freedom has been a primary ingredient in the success of the American economy.

These elements of the economy result in constant and significant changes in the market and in the internal adjustments that go on in individual firms. These adjustments are continually affecting the jobs of workers and the availability of opportunities within the occupations they are qualified for, either by training or experience. In this free enterprise economy, the individual worker has to be very enterprising in order to achieve continuity of employment and make successful transitions to new jobs and occupations when the ones they have fall out from under them.

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A most remarkable attribute of American workers is that they have in fact been very enterprising in making these transitions. Hundreds of thousands are doing so every year, out of their own resources, using their own initiative and ingenuity. However, not all are successful, and not all can do it without help. There are those who can just change jobs and employers on the basis of the skills and experience they had previously developed. There are those, however, who must change occupations in order to land on their feet.

Even those who must change occupations very often do so successfully entirely on their own initiative. Many new jobs can be learned quickly, even without prior experience. Dislocated workers may have savings that enable them to take some training in a private or public school to learn a new skill or they may have been acquiring a second skill going to school part-time in a community college or a technical institute or in an adult course at the public vocational school.

In general, most workers can handle these transitions forced on them by the free workings of the economy. *But not all can.* There are those who find that they need to change to a whole different occupation, that it requires further education or retraining to do so, and that they need help. This was the conclusion of the Manpower Development and Training Act passed in 1962 with bipartisan support by the Congress. It was also the conclusion that the economy as a whole benefitted from making these transitions successful, because it brought the skills of the workforce into balance with the skill needs of the economy; many a critical skill need can be met by retraining a worker.

Under the Manpower Development and Training Act, with administrative responsibility in the hands of the Department of Labor, training could be provided either in the school system or on the job through employers. As the program began in 1962, it was clearly for those who had become unemployed and needed retraining in order to become re-employed. It was to aid in successful labor market adjustment, not to be only a service for raising people who had sunk into poverty or who had always been there. In that sense, it was a *preventive* effort, not just a remedial one, and it did not require a welfare type needs test in order to qualify for it.

Starting about 1965, this broad effort, only beginning to grow in size, was for all practical purposes abandoned and converted into a poverty program to dovetail with the administration of the new Economic Opportunity Act. The conversion was not sudden but was conducted purposefully over a very few years. By 1973, this Federal program was decentralized to local Prime Sponsors under the Comprehensive Employment and Training Act; the public employment component was greatly enlarged; and the conversion to a means tested eligibility program was virtually complete.

The use of occupational education/training as a means of facilitating the adjustment of dislocated workers has dwindled, and what is left of the effort is almost wholly targeted on people who meet a means test. We argue that such retraining as a measure to prevent people dislocated by economic shifts from being thrown into poverty is also a worthy public objective, one that contributes to the ability of the economic system to remain vital. We also argue that the benefits of free and unfettered adjustments of business enterprises to shifts in markets and new market opportunities accrue to all and that the hardships imposed on the relatively few workers who must be dislocated because of these necessary shifts should be borne by all, not just the dislocated workers.

Many workers will need not only the retraining but also financial support for themselves and their families during the period of retraining. Sufficient experience exists with such arrangements under MDTA, CETA, and the GI Bill to work out such a system. A modest new effort is just getting underway in the Job Training Partnership Act. Also involved is some degree of distinction from, and integration with, the unemployment insurance system. The Trade Expansion Act has retraining benefit features, and a severe problem of equity has arisen between those eligible for these benefits and those in equal need who are not eligible.

There is some case for locating primary responsibility for such retraining in the Department of Labor and in the state and local structure through which it implements programs. Such training must be *directly related* to market needs, yet the vocational education system has not proven its willingness to be so immediately responsive. However, the Labor Department and CETA (and now its replacement, JTPA) have shifted so far in the direction of running only remedial programs for people already in poverty that it probably makes

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more sense to place this *preventive* effort in the vocational education system. If so, it should be mandatory that retraining be offered only in occupations approved by the appropriate labor market authorities and that the policy decisions be in the hands of a collaborative body, such as a Private Industry Council or an Industry-Education-Labor Council, or one of the various other forms of collaborative arrangements.

There is need for Federal stimulation of adult retraining through a separate Title of the Vocational Education Act, to provide matching funds which would expand opportunities beyond the limited numbers available under the Job Training Partnership Act.

A Public-Private Sector Relationship

Moving forward with the adult learning enterprise involves adults who want both to work and to go to school. The tremendous growth in adult learning in the last decade has been in part-time students. In order to serve adults, many of the traditional practices used for young and full-time students must be abandoned. In the adult learner enterprise, there are several potential beneficiaries, all of whom must work together if that potential is to be realized. Employers want career advancement, and continuing education is one important way to meet critical skill needs. Unions advocate educational opportunity for their members. Education institutions are more and more turning to adult learners to compensate for the loss of youth learners.

The first fact of interest to all these potential beneficiaries is the growing availability of funds in the private sector for education and training. One element of this growth is the large expenditure of business enterprises for internal education and training directly related to the production objective. The other is the increasing use of "tuition-aid" arrangements through which the employer (and sometimes the union) pays the costs of part-time education outside of working hours.

These tuition-aid benefits are growing in availability, but only a small proportion of employees are taking advantage of them. Only four to five percent avail themselves of these benefits, and only one or two percent of blue collar workers use them.* While a number of reasons explain this limited use, experimental work by the National Institute for Work and Learning has established that increasing information to workers about these plans, providing educational counseling services, helping workers deal with educational institutions, and getting education institutions to tailor their offerings more to workers' needs (in content, time, and place) will increase workers' use of these benefits and enlarge enrollments in education institutions.

From the standpoint of Federal policy, enrollments can be increased through this avenue with much less expenditure of public funds than would otherwise be the case. What is involved is the exercise of some leadership to get communities and the vocational/technical schools in them to maximize these opportunities.

This leadership could be exercised through the funding of a number of experimental and demonstration projects through vocational education institutions in order to perfect approaches to this opportunity and create models for other institutions. Recommended is a series of tuition-aid pilot programs to create a base of experience in education and employment institutions working together in this area.

The pilot program would involve:

- collaborative arrangements between school and employment institutions;
- the provision of information and brokering services;
- identifying what workers want and where they are comfortable getting further education; and
- experimenting with ways to deal with the problem raised by the fact that these plans usually reimburse the employee *after* completion of the course, while many workers lack the means to pay "up front."

The tuition-aid arrangement is not the only basis for joint efforts between employers and educators, but it might be a good place to start and might lead to other joint efforts to develop the skills needed by industry and to aid the career mobility of workers.

*For a full description of these programs, their use, and the barriers to their use, see Ivan Charner, *et al., An Untapped Resource,* The National Institute for Work and Learning, 1978.

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VII. Some National Imperatives

A policy of meeting national skill shortages, promoting entrepreneurship, and integrating the multitude of Federal human resource development efforts.

While the whole of this document is about critical skill needs and the Federal involvement in vocational education policy, there are some particular interests and responsibilities that merit separate attention, either because of overriding national interests, because of wholly new initiatives on the youth unemployment front, or because the Federal partner in this whole venture of human resource development has approached its task on an *ad hoc* and uncoordinated basis.

National Skill Shortages

A policy of directing Federal resources towards meeting clearly recognized economic needs.

In its recent report, the National Panel on Worker Education and Training Policy stated:

> As the Nation enters the 1980s it carries into the decade some serious economic problems. Inflation remains at unacceptable levels. Our products are less competitive in world markets. And underlying both of these conditions is a serious decline in productivity. While no one can pinpoint all the reasons for this decline, productivity measurement experts in their historical studies have attributed significant roles to education and training.*

Adequate development of the human resource is increasingly recognized as playing an important role in economic well being, along with such other important factors as the availability of natural resources and adequate levels of investment in plant and equipment. The pioneering work in this area was done by Edward Denison,** although more specific and more explicit estimates have been made recently (drawing on Denison's data) by John W. Kendrick. Kendrick concludes that .7 percentage points of the 1.3 percent productivity rate (over half of it) from 1966 to 1977 was due to education and training.***

To whatever extent the policies recommended here (for making vocational education offerings adapt more rapidly to the adjustments and shifts taking place in the market) bring education and the need for it into better balance, there will be larger contribution to the economy. Where education and training are needed, there is economic benefit. This benefit derives from the whole system of *responsive* vocational education. To say that it has an economic benefit does not, in itself, establish any necessary Federal financial responsibility to the system. Elementary education has economic value. So does maintaining a network of roads and streets, primarily a local responsibility.

However, there arise from time to time skill shortages of national importance, and when they exist, it is critical that the technical institutes, and other skill producing institutions, take steps to relieve these shortages. In the late 1960s and early 1970s, for example, there were severe shortages of a wide variety of technicians of the kind produced by two-year postsecondary institutions. As a result, the National Manpower Institute, together with the Advertising Council, organized a national campaign to increase enrollments in these occupational areas.

At the current time, there are severe shortages in the various categories of computer skills, some of which can be alleviated through the output of the two-year postsecondary vocational education institutions. There are shortages of machinists, there are shortages in health occupations, and there are many more, even in this period of high unemployment rates. And as the economy expands, the shortages become more critical.

Such critical skill shortages can be of considerable detriment to individual firms, as well as exacerbate national economic problems. The development of a skill bottleneck can slow down production and affect a large number of other workers. A skill shortage can lead to the use of inadequately trained personnel and to quality problems in the product or service.

**Adult Learning and The American Worker*, National Institute for Work and Learning, Fall 1980.

**Edward F. Denison, *Accounting for United States Economic Growth, 1929-1969*, The Brookings Institution, 1974.

***John W. Kendrick, "Increasing Productivity," in *Inflation and National Survival*, edited by Clarence C. Walton, The Academy of Political Science, 1979.

The existence of skill shortages of sufficient magnitude to affect production has potential for contributing to inflation. Where there is demand for goods and services not met by sufficient output because of inability to secure a sufficiently well-trained labor supply, there is a fueling of inflationary forces, resulting from pressure on prices caused by the insufficiency of supply. Past shortages of engineers (and these shortages now exist) to design more fuel efficient engines, for example, made it more difficult for the American automobile industry to compete with Japanese firms.

This analysis is by no means new nor is the relationship of skill shortages to inflation undiscovered. The Cabinet Committee on Price Stability reported in 1969 that:

> In markets characterized by excess demand, skills required exceed skills available and inflationary pressures result from the struggle of the market to adjust supply and demand. Such pressures can occur even when employment is less than full and contribute to sectoral inflation.

There is, we believe, sufficient argument for earmarking a portion of Federal funds appropriated for vocational education for use as a reserve for allocation, through states, to local vocational and technical institutions to help them meet specifically identified national skill shortages. These funds should be kept outside the regular formula allocation to the states and released only when there is a *bona fide* skill shortage, identified by some process that provides confidence that the shortage in fact exists.

The certification of such skill shortages, for alleviation with Federal funds, could be made through a Human Resources Development Board, recommended on page 28. The composition of this Board is sufficiently broad as to permit due consideration of the problems and also provide some assurances that these funds would not be used simply to augment regular formula allocations unless there is clear and identifiable national need. Setting the criteria for what constitutes such skill shortages would be a task of the Human Resources Development Board.

Entrepreneurship

A policy of teaching skills necessary to run very small businesses and developing youth-operated enterprises from the base of the school system.

There is one prime candidate for Federal stimulus to broaden the mission of the vocational education system beyond basic education, occupational education, and employment transition services.

There are a number of developments that make it important that vocational education expand its efforts to help young people enter and create small business enterprises. While we have an economic system that has relied on risk-taking and entrepreneurship, public education has supposed that preparation for work means preparation to be hired in ongoing organizations.

It is not likely that the individualism inherent in creating one's own business can be factored into a standard curriculum. On the other hand, much of the job growth in recent years has been in very small businesses. The service sector is loaded with opportunity to create small enterprises, from dry cleaning establishments, to appliance repair shops, to typing services.

Time was when this was relatively simple. But small business attempts frequently run aground on the shoals of inadequate bookkeeping, inadequate tax records, inadequate knowledge of purchasing, and on and on. Those barriers can be eased, if not removed, if some of these basics are combined with training in delivering the service itself. Teaching appliance repair can be combined with teaching the basics of how to sell the service and open a small shop and how to go about securing funding. Teaching about the risks of opening a small business should be included. The failure rate is high. Some people fail several times before they establish a "going concern."

Any such effort should be approached using instructors who have had practical experience and relying on advisory groups of small business people.

A related area in which more support systems exist is in the many franchise systems, from gas stations to fast food chains. Basic information could be provided through the school system about these operations and what is required to enter them.

One instructional mode that has been used successfully in several places is for the school system to actually operate a number of small business enterprises, using students to do so and rotating them among the vari-

ous functions that are involved. Some of this is taking place within the vocational education system. One example everyone knows about is the auto mechanics course in which students fix cars and charge fees.

While there is at present no thorough treatment of all past and existing efforts in this area, extensive consideration was given to creating new models of school and employment-based youth enterprise approaches in *Job Strategies for Urban Youth,* published in 1979 by the Work in America Institute.

The Federal Partner in Human Resource Development

A policy of better integration and development of Federal effort in the human resource area.

The Federal government has never really had a policy toward the development of human resources and its role in it. So one cannot agree or disagree about Federal policy. To speak of a Federal policy would require extensive synthesis of the disparate, *ad hoc,* and unrelated efforts over the last several decades.

In the 1950s, the Labor Department (meaning primarily the U.S. Employment Service) and the Office of Education (and their state counterparts) argued a bit from time to time over jurisdiction with respect to the administration of the General Aptitudes Test Battery and the development of employment counseling and placement within the schools, eventually reaching an uneasy truce. Neither really ever did the job very well, separately or together.

A national trauma in 1957, the launching of Sputnik, produced decisive Federal action to increase our pool of talent in science and engineering, in the interest of national defense (in fact, it was named the National Defense Education Act). The National Science Foundation has watched over the adequacy of the science and engineering talent pool, with varying degrees of diligence during its lifetime.

As the decade of the 1960s began, Senator John F. Kennedy promised a revitalization of the U.S. Employment Service in campaign speeches in the hills of West Virginia. This produced a spurt of reform activity, and some new money. But with the advent of the war on poverty in 1964, the Employment Service was diverted to serving poor people, with very little of substance to offer them. In the process, it resumed its decline, becoming less and less a widely used job placement exchange. The result was less capacity to serve anyone, including the poor.

On the Office of Education side, a long and continuing reform effort was started by President Kennedy, resulting in the Vocational Education Amendments of 1963, 1968, and 1976. This Federal activity has had a lot to do with the fact that vocational education can now be taken seriously, as an important element of the nation's public education system and as an important supplier of the skills the economy needs (although recommendations made above indicate a belief that it has a long way to go in becoming responsive to these needs).

In the meantime, also located in the Department of Health, Education and Welfare, the Vocational Rehabilitation Administration continued to grow and broaden its clientele until its definition of handicaps overlapped those being used in the poverty war.

The Economic Opportunity Act itself was principally a set of human resource development measures, with its Neighborhood Youth Corps, its Community Action Agencies (that developed employment assistance services), and its work experience programs for welfare heads of families. The enactment of this legislation was preceded by the enactment of the Manpower Development and Training Act, of which some history is provided in Section VI. The short of this history is that what started out to be an idea of a "manpower policy" that would provide an integrating force for Federal and national efforts in human resource development was diverted almost entirely into a front line battalion in the poverty war. Many starts were made, however, under MDTA, both in developing a body of experience and in diligent conduct of a program of research and experimentation.

The Comprehensive Employment and Training Act created a National Commission on Manpower Policy, later renamed the National Commission on Employment Policy. In theory, this could be a mechanism through which a more cohesive approach to human resource development policy could be established. By its location in the CETA legislation (now in JTPA), its principal tasks have been in connection with the means tested poverty approach of CETA, and its location for housekeeping purposes in the Department of Labor limited its agenda.

However, it has recently been broadening the scope of its concerns.

On the welfare front, two separate pieces of legislation created large training and employment efforts for people on welfare, for the purpose of making them wholly or partially independent. One is the Work Incentive program (WIN), operated jointly at the Federal level by the Department of Labor and the Department of Health and Human Services, and the other is the training component of the social services title of the Social Security Act (Title II). The lines down to the local level of these training and employment services programs differ both from each other and from the lines down from CETA to Prime Sponsors.

The Trade Expansion Act, with its benefits for re-training available to workers certified as having been adversely affected by imports, is administered, through the Department of Labor, separately from both CETA (JTPA) and the WIN program.

This scattering of responsibility has its mirror image in the Congress, with program responsibilities in different committees. The Senate Labor and Human Resources Committee does not really have a "human resources policy" but generally deals with the components as separate issues, although use of oversight hearings, in advance of specific hearings on reauthorizing legislation, has helped provide a broader review (as, for example, the hearings held by the Senate Labor and Human Resources Committee before dealing with specific legislation on reauthorization of Higher Education in 1979). Responsibility for all the welfare training programs and the Trade Expansion Act is with the Ways and Means Committee and the Senate Finance Committee. The human resource elements of the National Science Foundation are dealt with in yet another committee. Professional education aided by various Federal appropriations is also scattered throughout various Congressional committees.

It is unrealistic, and possibly even undesirable, to consolidate completely administration and legislative consideration of all Federal human resource development efforts. The objectives vary, and the reasons behind this separateness are often still present today. But there ought to be some better mechanisms for considering human resource efforts as a whole and becoming more aware of the individual pieces and how they do and do not fit together. There are various arrangements in other areas for such an overview. The Joint Economic Committee is an example of this, in combination with the Council of Economic Advisors and its annual Economic Report on which hearings are held by the Committee.

There are likely a number of alternative ways of achieving such overview and integration at the policy level. One would be the creation of a broadly representative Human Resources Development Board, which would provide administrative oversight, and an annual report to Congress, to be received by a special committee composed of representatives of all committees with legislative responsibility in this area.

This need for a more general mechanism goes, of course, beyond vocational education policy itself, but the two matters are very much related.

VIII. Conclusion: Responding to Change

The vocational education system in the United States has assumed a tremendous responsibility. On the one hand, it has a responsibility for assuring that young people going through high school are equipped with the *basic* skills needed for employment, as well as for life. No one who talks with employers can miss getting the message that they are concerned about these basic skills and count them as much a part of employment preparation as specific occupational skills.

There has been a change in the structure of industry and work. There is less plain physical work and more that requires the mind and the ability to read, write, and compute. Vocational education needs to respond to this reality, combining general education and occupational skill training and using the workplace for development of basic skills wherever possible, as well as providing job-specific instruction. Examples of exemplary efforts along this line abound and need wider application.

Another change has been in the greater complexity of urban labor markets that young people have to negotiate in moving from school to work. It helps to have an occupational skill that employers need, but that is no longer all that is involved. There is need for information about where the jobs actually are, a need for organized job placement systems with close relationships with employers, staffed by people who know where the jobs are and what they require. There are more *kinds* of jobs and careers today than 30 years ago, or 20 years ago, or even 10 years ago; yet counseling for youth not going on to college has been seriously neglected. And the one-third or so of young people in general education tracks in high school need these job placement and employment counseling courses as much as—or more than—youth enrolled in occupational training programs.

This increasing complexity of labor markets and the transition from school to work requires that the vocational education system be responsive to the need for transition services that go beyond classroom occupational preparation and that are available to all youth not continuing their educations.

Skill needs of employers change; different employers have different policies with regard to hiring young people and what they are looking for. The promise of vocational education will be realized only if it finds the means of keeping up with this change, remaining responsive to changing employment, training, and hiring practices and the changing skill needs of the economy. The need is *to build responsiveness into the system,* rather than let it get out of touch and struggle from time to time trying to restructure a system not in contact with the reality of the labor market.

In one way or another, the recommendations made in preceding sections are for the purpose of building in responsiveness. These include: greatly enlarged use of cooperative education type approaches; other joint education-employer skill training ventures; enlarged participation of employing institutions in the governance of vocational education; better use of occupational information and coordination of its development and application at the local level; and the development of "account managers" to create a regular system of communication between schools and employers.

The point is made that adult education is developing along many fronts and that occupational education, through the structure of community and junior colleges as well as the two-year technical institutes, has seen considerable growth over the last decade or so. What should be the particular contribution of Federal policy to the fuller development of the structure of adult learning opportunity through the Federal vocational education law?

Two approaches to adult learning through Federal law are recommended. The first is the stimulation of an Occupational Adjustment Assistance Program in the Federal Vocational Education Act, to be financed jointly with the states. In doing so, we would recognize the degree of dislocation to individual workers resulting from a dynamic free enterprise system and the need to assist some of those dislocated by economic change to be re-equipped with the occupational skills demanded by the economy.

The second is to create the school-employer partnership which is required to utilize more fully the tuition aid programs provided by private industry. Such a partnership would have promise of using vocational-technical schools to help workers upgrade their skills and their jobs,

with the tuitions paid by employers and with employers realizing a return in terms of a more skilled labor force. The potential of tuition-aid programs will be realized, though, only if vocational technical schools are responsive to the aspirations of workers and the skill needs of industry.

Also recommended is a responsiveness to three national needs. One is the need to apply Federal dollars available for vocational education to meeting critical skill shortages that retard production of goods and services. Another is the need to be responsive to the fact that the largest increases in employment are in small enterprises and to equip more young people with the knowledge necessary to become small business entrepreneurs (most all past instruction has ignored entrepreneurship). The third is to develop mechanisms at the national level that would do a better job of integrating Federal efforts in human resource development and develop a more coherent Federal approach than is represented by the present fragmentation which exists in this area of Federal law and expenditure.

While achieving a responsiveness to change is an objective commended as appropriate for Federal level involvement in vocational education, there has been no effort here to make expenditure estimates. This is a step appropriately taken after desired policy directions have been selected. This document deals with basic policy roles for the Federal government and for local initiative as well. While these policy directions would lead toward some redeployment of Federal expenditures, they would not permit reduction, and some increases are undoubtedly warranted. The truly national objectives identified here would require a Federal involvement in funding. The amounts involved in meeting critical skill shortages to industry and creating an Occupational Adjustment Assistance program, to use two examples, are likely to be substantial. So would be the expected returns to the economy.

Vocational education was invented as a response to the changing needs of industry and to the proposition that more youth should be given a high school education, rather than only a few prepared for advanced educations. In order to make this response, a collaborative effort emerged among reform-minded educators, businesses, unions, and government. That collaboration has fallen into disrepair and needs to be restored. As it is restored, vocational education will have built into the system a responsiveness to change that will both strengthen the economy and help more people advance in it.

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